

associated with rice. Rice, however, is not grown at or near Hilton. Pyralidae were likewise numerous, and included *Uresiphita gilvata* Fab.,—previously reared from cultivated Broom—*N. noctuella* and *Mesgrapha martialis* Guen. Several species of Adelidae with very long antennae occurred commonly. These included *Ceromitia amphichroa* Meyr., *C. flavicoma* Meyr., and *C. wahlbergi* Zeller. The last-mentioned species was also recorded at light at Wilderness, C. P. Tortricidae were likewise much in evidence; especially *Tortrix capensana* Walk., a common and widespread species, with numerous host-plants, including ivy growing on the wall of our house at Hilton.

The syntomid *Thyretes hippotes* Cram., which was the commonest species of moth at light at Wilderness, C.P., was not recorded at Hilton.

Hymenoptera were represented mainly by parasitic wasps and by various ants, including the ferocious-looking but innocuous male of the Driver Ant *Dorylus helvolus* L. Individuals of the Hive Bee *Apis mellifera* were also present at light from time to time.

I am much indebted to Mr. S. N. A. Jacobs, and to Drs. Bo Tjeder, E. C. G. Pinhey and L. Vari for their kind assistance in identifications.

3 Aird's Court, Westgate, Crail, Fife. 29.xii.67.

New Subspecies in the Genus *Zygaena* Fabricius* (Lep., Zygaenidae)

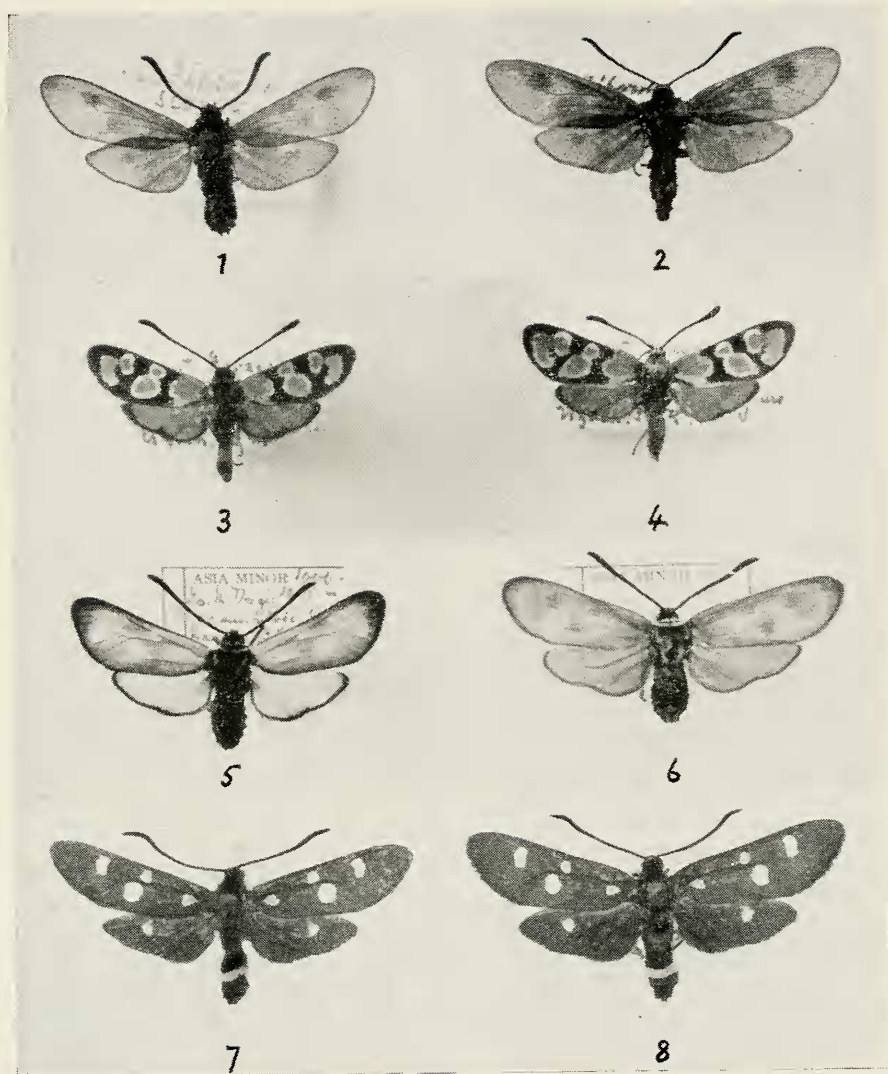
By HUGO REISS, Stuttgart

Zygaena (Mesembrynus) cynarae Esper ssp. **slovakica** n. subsp.

Zygaena cynarae Esper is one of the most interesting species. Its known localities are generally widely separated, consequently the various populations differ in their isolated biotopes. Such an example is shown in 45 ♂ and 7 ♀ that Mr. J. Smelhaus, Prague, sent my son. These specimens are ex coll. Dr. R. Schwarz and are labelled as follows: Slovakia occ. Laksarska—Nova Ves, from the Zahorska nizina (Zahorska Plain) ca 45 km north of Bratislava. The specimens were collected or were reared ex larva on the following dates: v.1947; v.1948; vi.1949; 9.vii.1950; v.1951; 27-30.vi.1951; 9.vii.1952; vi.1960; 26, 28.vi.1961. According to Dr. Schwarz the foodplant is *Peucedanum oreoselinum* Moench.

According to material in my collection, the Slovakian race differs from all known races of *cynarae*. The nominate race was described from Lemberg (Lwów), Galicia (Esper, 1789). Holik (1932: 115) has written on this subspecies and figured specimens from Janów, 20.vii.1931, leg. Swiatkiewicz. Of the nominate subspecies I possess material, labelled: Janów, Lwów, 15.vii.1932, leg. Swiatkiewicz, ex coll. Niesiolowski, with a wing span of 35 mm. in the ♂. Compared with the nominate race, the subspecies from Slovakia is smaller, with a wingspan of 28-33 mm. in the ♂ and 30-34 mm. in the ♀. The red of the forewing spots and the hindwings is lighter. The apex of the forewing is less rounded. Spots 3, 4 and 5 are larger, 3 and 4 are generally narrowly separated from each other. In addition, the dark border of the hindwing is narrower. The red abdominal ring is distinct, in the ♂ only sometimes dusted with

*The placing of the species into their respective subgenera *Mesembrynus* Hübner, *Argumenta* Hübner and *Zygaena* Fabricius follows Reiss (1958).



- Fig. 1—*Zygaena cynarae slovakica* n. subsp. Holotype ♂, wingspan, 30 mm.
 Fig. 2—*Z. cynarae slovakica* n. subsp. Allotype ♀, wingspan, 32.5 mm.
 Fig. 3—*Z. kavrigini amankutana* n. subsp. Holotype ♂, wingspan, 24.5 mm.
 Fig. 4—*Z. kavrigini amankutana* n. subsp. Holotype ♀, wingspan, 24.5 mm.
 Fig. 5—*Z. loti isigensis* n. subsp. Holotype ♂, wingspan, 29 mm.
 Fig. 6—*Z. loti isigensis* n. subsp. Allotype ♀, wingspan, 31 mm.
 Fig. 7—*Z. ephialtes ines* n. subsp. Holotype ♂, wingspan, 33 mm.
 Fig. 8—*Z. ephialtes ines* n. subsp. Allotype ♀, wingspan, 35 mm.

dark scaling. Only three ♂ of the Slovakian specimens have spots 1 and 3 and 2 and 4 confluent.

Compared with *cynarae austriaca* Schwingenschuss (1952: 136) of which I possess much material from the neighbourhood of Theyern near Herzogenburg, 350-400 m., Lower Austria, the Slovakian race is generally somewhat larger. Schwingenschuss gives 25-33 mm. wingspan for *austriaca*.

The red of the forewing spots and hindwings is somewhat lighter. Forewing spots 3, 4 and 5 are larger. The red abdominal ring does not appear to be essentially variable in either the ♂ or the ♀.

I name this Slovakian race: **slovakica** n. subsp. Holotype ♂, labelled: Slovakia occ., Laksarska Nova Ves, e.l. vi.1951; Allotype ♀, labelled: Zahorska nizina, e.l. v.1951, likewise 44 ♂, 6 ♀ Paratypes in coll. H. and G. Reiss. Further paratypes in coll. Dr. R. Schwarz and J. Smelhaus, Prague.

The types are illustrated on the accompanying plate (figs 1, 2). Wingspan, ♂, 30 mm., ♀ 32.5 mm. The figures show the length and form of the antennae, the wing shape and size and position of the forewing spots.

Zygaena (Argumentia) kavrigini Grum-Grschimailo ssp. **amankutana** n. subsp.

Grum-Grschimailo found the nominate *kavrigini* in the Dzhilian-Tau (Zeravshan) and near Baldzhuan (Karategin), Bucharra, 800-1200 m. Holik and Sheljuzhko (1956: 170-174) wrote at length on this species and quoted the original description of *kavrigini* Grum-Grschimailo (1887; 1890) and also the description of *rhodogastra* Staudinger (1889), which is placed as a synonym. From the Tring Museum I received 1 ♂ from coll. Grum-Grschimailo with the date of capture, 22.v.1885, handwritten in old style. Forewing length 12 mm., wingspan 25.5 mm. From the coll. Seiler, Montpellier, without details of the collector, I have 6 ♂, 2 ♀ labelled: mont. Zeravshan, Aman Kutana, 22.vi.1966, Uzbek S.S.R., that do not agree with the original description and the above mentioned specimen. On the whole, the specimens from Aman Kutana are quite uniform. They differ from the nominate subspecies, which in size has a wing length of 12-13 mm. in both sexes, while Staudinger, in describing *rhodogastra*, gave 25-30 mm. as wingspan. The wingspan of the specimens from Aman Kutana is 22-25 mm. in the ♂, 24.5 and 26.5 mm. in the two females. In shape the forewings are narrower and more pointed. The confluent, brick-red basal spots 1 and 2 of the forewings do not reach the inner margin, from which they are separated by the broad, yellow edging of these spots. This yellow edging more or less extends along the inner margin, especially in the ♀. The base of the wing is lightly dusted with dark scaling. Spots 3 and 4 are broadly surrounded with light yellow, spot 4 is larger with the point orientated towards the tornus. Spot 5 is likewise broadly surrounded with light yellow, spot 6 appears longer and is just connected to spot 5 anteriorly. In 1 ♂ spot 6 is separate, while in 1 ♀ the connection of spot 6 is broader. Spot 6 is distinctly edged with yellow around the posterior half, on the anterior half the edging is narrower. In 1 ♀ the lower part of spot 6 is almost yellow. The characteristic features of *kavrigini*, such as brick-red frons, patagia and tegulae, and the red abdomen (of both sexes, but stronger in the ♀) are all present in these specimens. Specimens with quite

narrow or absent yellow edging of the forewing spots, that often occur in typical *kavrigini* (= *rhodogastra*), are absent. On the underside, the yellow edging is clearly evident.

Holik and Sheljuzhko (1956: 173) state that the locality Dorf Aman Kutan is in the foothills of the Zeravshan Mountains.

I name this race **amankutana** n. subsp. Holotype, ♂, mont. Zeravshan, Aman Kutan, 22.vi.1966, Uzbek S.S.R.; Allotype ♀ with the same data. Paratypes, 5 ♂, 1 ♀ with the same data in coll. H. & G. Reiss.

The types are illustrated on the accompanying plate (figs 3, 4). Wingspan, ♂, 24.5 mm., ♀, 24.5 mm. The figures show the length and form of the antennae, the wingshape, the size of the forewing spots and the breadth of the hindwing border.

Zygaena (Agrumenia) loti Denis and Schiffermüller (*achilleae* auct.) ssp. **isikensis** n. subsp.

Mr. von Demelt sent my son 11 ♂, 16 ♀ labelled: Asia minor, Isik Dagh, 1000-1200 m., 100 km. north of Ankara near Güvem, vi.1966, that differ from *loti anatolica* Burgeff (1926: 37) from Es-Schehir, southern Anatolia. These specimens also differ from specimens in my collection from Ak-Chehir, Anatolia, 1909, leg. Korb; Ak-Chehir, 21-30.vi.1928, leg. von Bartha; Aksehir, Sultan Dagh, 1000-1500 m., 20-30.vi. and vii.1934, leg. Pfeiffer, München; Aksehir, Sultan Dagh 15.vi.-13.vii.1963 leg. Leinfest and Bulghar Dagh, Namrun, 1460-1600 m., 16.vi.1965, leg. von Demelt.

The specimens from Isik-Dagh are on average larger, somewhat densely scaled and with large forewing spots. Wingspan, ♂ 27-31 mm., ♀ 28-31 mm. The red is somewhat warmer. The yellow scaling in the spot area is less in the ♂, but in the ♀, however, is well represented. The tendency to confluence of the forewing spots is less when compared with ssp. *anatolica*. Holik and Sheljuzhko (1955: 146) wrote at length on ssp. *anatolica* Burgeff. The series from Isik-Dagh differs from the ssp. *pontica* Holik and Sheljuzhko (1955: 143) from Amasia by its size, the much broader wings and the dense scaling.

I name this race: **isikensis** n. subsp. Holotype, ♂, Asia minor, Isik Dagh, 1000-1200 m., 100 km. north of Ankara near Güvem, vi.1966; Allotype, ♀ with the same data; Paratypes, 10 ♂, 15 ♀ with the same data, in coll. H. and G. Reiss.

The types are figured on the accompanying plate (figs 5, 6). These figures show the length and shape of the antennae, the wingshape, the size and position of the forewing spots and the breadth of the hindwing border.

Zygaena (Zygaena) ephialtes Linné ssp. **ines** n. subsp.

Mr. J. R. Caron and his wife, of Hilversum, found *Z. ephialtes* Linné near Jaca (Huesca), 800 m. North Spain on 9-17.vii.1966 and sent me 7 ♂, 7 ♀. Mr Caron wrote that he has retained 10 ♂, and 8 ♀ in his collection from Jaca and sent me a description of these specimens. Also Lt.-Col. W. B. L. Manley and his wife collected 11 ♂, 14 ♀ of this race near Jaca, 14-26.vii.1964 (Tremewan and Manley, 1965: 8, 9). This race differs from all known races of *ephialtes*. Wingspan, ♂, 31-33 mm., ♀, 35-36 mm., differing in size from ssp. *roussilloni* Koch (wingspan, ♂, 34 mm., ♀, 34-40.5 mm.), described from Vernet-les-Bains, Pyrénées-Orientales (French Pyrenees). I have in my collection specimens from the type